

NOTICE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

N 8900.314

National Policy

Effective Date:
8/12/15

Cancellation Date:
8/12/16

SUBJ: Airplane External Load Operations Within the State of Alaska

- 1. Purpose of This Notice.** This notice prescribes Federal Aviation Administration (FAA) policy for carrying external loads on airplanes and is applicable only to airplane external load operations in Alaska. This includes eligibility requirements for the airplane and the operator, and the steps for authorizing airplane external load operations, as well as best practices for safe airplane external load operations.
- 2. Audience.** The audience for this notice is the Alaskan Region Flight Standards Division (AAL-200), the Anchorage Aircraft Certification Office (ACO) personnel, and Alaskan designees approved by the Administrator.
- 3. Where You Can Find This Notice.** You can find this notice on the MyFAA employee Web site at https://employees.faa.gov/tools_resources/orders_notices. Inspectors can access this notice through the Flight Standards Information Management System (FSIMS) at <http://fsims.avs.faa.gov>. Operators can find this notice on the FAA Web site at <http://fsims.faa.gov>. This notice is available to the public at http://www.faa.gov/regulations_policies/orders_notices.
- 4. Cancellation.** This notice replaces N 8900.272, Airplane External Load Operations Within the State of Alaska, dated August 7, 2014, and all previous policy and guidance on airplane external load operations in Alaska.
- 5. Background.** On June 14, 1978, the Alaskan Supplement No. 1 to FAA Order 8130.2B, Airworthiness Certification of Aircraft and Related Products, was adopted. On March 22, 1993, it was approved for use by the Acting Flight Standards Alaska Regional Division Manager for Alaska operations only. The supplement replaced earlier policy that gave guidance to the aviation safety inspector (ASI) on authorizing airplane external load operations. This policy demonstrated that—with care, diligence, and experience—airplanes can safely carry external loads unique to operations in Alaska.
- 6. General.** The FAA permits the carriage of external loads on airplanes in Alaska when the operator complies with this notice.

 - a. Airplane Eligibility.** An airplane eligible for the carriage of external loads must:

(1) Be a propeller-driven airplane type certificated (TC) in accordance with Title 14 of the Code of Federal Regulations (14 CFR) part 23 (or its predecessor regulations) in the normal, utility, or acrobatic category, and have a valid airworthiness certificate in that category.

(2) Have a maximum certificated takeoff weight of 12,500 pounds or less, and be registered in the United States.

b. Pilot Requirements. The pilot in command (PIC) of an airplane carrying an external load must:

(1) Hold a private, commercial, or airline transport pilot (ATP) certificate, with appropriate ratings and currency for the airplane type and operation;

(2) Have at least 250 hours of flight time;

(3) Have at least 50 hours as PIC in the make and model airplane used for the external load;

(4) Operate the airplane in accordance with the operating limitations issued in 14 CFR part 91, § 91.313 when in restricted category; and

(5) Have adequate knowledge of:

(a) External load attaching methods;

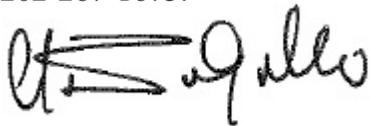
(b) The airplane operating limitations issued for the external load operation; and

(c) How the external load may affect the flight characteristics of the airplane.

c. Airplane Handling and Flight Characteristics When Carrying External Loads.

Aerodynamic forces and the weight of an external load change an airplane's handling and flight characteristics. These forces can negatively affect airplane performance (takeoff, climb, cruise, and landing), airplane stability, flight control effectiveness, vibration, fuel consumption, and engine cooling, among other characteristics. The operator must take care when selecting and mounting an external load and also exercise prudence to avoid operation outside the airplane's Weight and Balance (W&B) envelope, and to avoid aerodynamic effects that make operations unsafe.

7. Disposition. We will incorporate the information in this notice into FAA Order 8900.1, Flight Standards Information Management System (FSIMS), before this notice expires. Direct questions concerning the information in this notice to the General Aviation and Commercial Division (AFS-800) at 202-267-1100 or the Aircraft Maintenance Division (AFS-300) at 202-267-1675.



John Barbagallo

Deputy Director, Flight Standards Service

Appendix A. Airplane Eligibility

This task requires coordination between Airworthiness and Operations aviation safety inspectors (ASI). However, it will be the Airworthiness ASI who will issue the restricted airworthiness certificate and associated operating limitations.

1. Except for primary category, an airplane certificated in the normal, utility, acrobatic, transport, or limited category may be issued multiple airworthiness certificates. A restricted category certificate for the purpose of carrying external loads in Alaska may be issued if the airplane can be converted to the restricted category in accordance with Title 14 of the Code of Federal Regulations (14 CFR) part 21, §§ 21.25, 21.185, and 21.187.

a. Section 21.25 allows a restricted category type certificate (TC) to be issued and lists types of special purpose operations that can be authorized. Section 21.25(b)(7) lists “any other operation specified by the FAA.”

b. Section 21.185 allows aircraft with a restricted category TC to be issued a restricted airworthiness certificate.

c. Section 21.187 outlines the requirements for the issuance of a multiple airworthiness certificate. The conversion from one category to another must be accomplished by simple mechanical means to meet the test of the regulation. Since the conversion is by simple mechanical means, the return to the standard category does not require the airplane to be inspected by a certificated airframe mechanic.

2. In addition to FAA Form 8100-2, Standard Airworthiness Certificate, FAA Form 8130-7, Special Airworthiness Certificate, will be issued in the restricted category with operating limitations. Airworthiness certificate(s), FAA Form 8100-2, and/or FAA Form 8130-7 must remain in the airplane and be displayed. A method must be provided by the applicant to display the restricted identification when the airplane is in that configuration, per 14 CFR part 45, § 45.23(b).

a. Certificate Duration. In accordance with § 21.181(a), the restricted airworthiness certificate will become invalid upon transfer of ownership of the airplane. The termination date of the restricted category certificate is the date of transfer to the new owner.

b. Operation. If the pilot in command (PIC) conducting the operation changes, the new PIC must re-comply with item 11 of the operating limitations, as this limitation is specific to the pilot operating the aircraft.

3. An airplane carrying an external load which is not considered a major alteration, as defined by 14 CFR part 1, § 1.1, may conduct those operations in the standard category. The following items have been evaluated and are typically not considered to be major alterations, as defined by § 1.1:

a. Snowshoes,

b. Cross country skis,

- c. Hunting rifle/scabbard,
- d. Backpack frame, and
- e. Game tracking antenna.

Note: With the exception of the game tracking antenna, these items are not considered to be installed equipment, and no further action is required. The game tracking antenna is typically a minor alteration which would require a logbook entry.

4. An airplane carrying an external load which is determined to be a major alteration, as defined by § 1.1, must conduct those operations in the restricted category. The following items have been evaluated and are typically considered to be major alterations, as defined by § 1.1:

- a. Game antlers,
- b. Canoe/boat,
- c. Lumber/plywood, and
- d. Other items not listed in paragraph 3.

5. When the airplane is operated in the restricted category, it shall not be operated for compensation or hire.

CERTIFICATION STEPS—GENERAL INSTRUCTIONS

1. Obtain from the applicant a properly executed FAA Form 8130-6, Application for U.S. Airworthiness Certificate, and any other documents that may be needed for certification. The applicant must submit FAA Form 8130-6 with the front completed, as illustrated in Figure A-1, Application For Multiple Airworthiness Certificate External Load.
2. The applicant must submit FAA Form 337, Major Repair and Alteration (Airframe, Powerplant, Propeller, or Appliance), showing similar information as shown in Figure A-3, For Restricted Category Type Certificate, and Figure A-4, For Restricted Category Type Certificate, but leaving the date blank.
3. After the inspector and applicant have completed the preceding steps, the inspector must complete FAA Form 337 by signing Block 7, approval for return to service. He or she must complete FAA Form 8130-7 (Figure A-5) issued in the restricted category for airplane external loads, and the appropriate operating limitations, as shown on pages A-4–A-10 in triplicate.

4. A logbook entry will be made after the inspector has completed all the certification steps and will state:

“I find that this airplane meets the requirements for the certification requested and have issued a Special Airworthiness Certificate dated _____.” (It will be signed by the issuing airworthiness inspector.)

5. The original copy of FAA Form 337, FAA Form 8130-7, and the operating limitations must be given to the applicant; one copy must be forwarded to the Aircraft Registration Branch (AFS-750), and the remaining copy must be retained in the Alaskan Region Flight Standards District Office (FSDO) files.

**AIRPLANE, RESTRICTED CATEGORY EXTERNAL LOAD OPERATING
LIMITATIONS**

DATE _____

N Number _____

A/C Make & Model _____ Serial No. _____

- 1.** This airplane is issued a restricted category airworthiness certificate for the carriage of external loads.
- 2.** The restricted airworthiness certificate associated with these operating limitations is valid only when the airplane is operated within the State of Alaska.
- 3.** This airplane must not be operated in the restricted category for other than the special purpose for which it was certificated (i.e., carriage of external loads).
- 4.** No person may operate a restricted category civil aircraft carrying persons or property for compensation or hire unless that person:
 - a.** Is a flightcrew member;
 - b.** Is a flightcrew member trainee;
 - c.** Performs an essential function in connection with the carriage of the external load for which the airplane is certificated; or
 - d.** Is necessary to accomplish the work activity directly associated with the special purpose.
- 5.** The PIC operating the airplane with an external load must:
 - a.** Hold a private, commercial, or airline transport pilot (ATP) certificate with appropriate ratings and currency for the airplane type and operation;
 - b.** Have at least 250 hours of flight time;
 - c.** Have at least 50 hours as PIC in the make and model airplane used for the external load;
 - d.** Have adequate knowledge of:
 - (1) External load attaching methods;
 - (2) The airplane operating limitations issued for the external load operation; and
 - (3) How the external load may affect the flight characteristics of the airplane.
 - e.** Operate the airplane in accordance with these operating limitations when in the restricted category.

- 6. Takeoffs and landings will be made to provide the least possible exposure to people and property on the ground. Takeoff, landing, and enroute flight paths will be planned so that any inadvertent or accidental release of the external load will not present a hazard to persons or property on the surface.
- 7. No flights will be made over densely populated areas or on a congested airway.
- 8. Except for takeoffs and landings, operations shall not be conducted near a busy airport where passenger transport operations are conducted.
- 9. When airplanes with external loads are being operated to and from tower controlled airports, it shall be the responsibility of the PIC to advise the tower that the airplane is operating in the restricted category and clearance over densely populated areas cannot be accepted.
- 10. For operations to and from (_____), all takeoffs and landings must be made toward (_____).

Note: This paragraph can be used to limit operations to a specific departure and/or approach direction. It may also be eliminated if so desired.

11. It is the responsibility of the PIC conducting the operation to ensure that the external load is properly secured to prevent it from shifting or coming loose during flight. It is also the responsibility of the PIC conducting the operation to ensure that the airplane is safely controllable and has no adverse flight characteristics while carrying an external load. This determination must be made by conducting a flight check of the airplane with the external loads that will be carried. Upon completion of the satisfactory flight check and prior to further operation, the following entry must be made in the aircraft records by the PIC conducting the operation:

Airplane flight checked in _____ (non, light, moderate, or severe) turbulent air at airspeeds from _____ and to _____ mph/kts and found to be safely controllable and to operate satisfactorily with the following external load(s) attached:

_____.

By: _____

Name

Pilot Certificate No.

- 12. Operations shall not be conducted at speeds exceeding that for which safe controllability has previously been demonstrated.
- 13. The gross weight or limits of the airplane shall not be exceeded.
- 14. The word “restricted” must be displayed on the airplane near each entrance to the cabin or cockpit in letters not less than 2 inches nor more than 6 inches in height.
- 15. External load operations with this airplane are to be conducted under visual flight rules (VFR) day/night operation only.

16. External load operations with this airplane shall not be conducted in turbulent air greater than what was tested during the flight check (as noted in paragraph 11 above).

17. If the PIC conducting the operation changes, or if there are changes/alterations to the external load, attaching means, and/or to the airplane which may affect the flight characteristics, the flight check (as noted in paragraph 11 above) must be conducted and recorded again.

18. The attached restricted airworthiness certificate will become invalid upon transfer of ownership of the airplane. The original applicant for the restricted airworthiness certificate, prior to transferring ownership of the airplane, must surrender the certificate and operating limitations to the nearest FSDO.

Signature

(Airworthiness Inspector)

**Figure A-1. FAA Form 8130-6, Application for U.S. Airworthiness Certificate
(For Multiple Airworthiness Certificate External Load)**

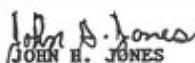
Form Approved O.M.B. No. 2120-0018
Expiration Date 04/30/2015

 U.S. Department of Transportation Federal Aviation Administration		APPLICATION FOR U.S. AIRWORTHINESS CERTIFICATE			INSTRUCTIONS - Print or type. Do not write in shaded areas; these are for FAA use only. Submit original only to an authorized FAA Representative. If additional space is required, use attachment. For special flight permits complete Sections II, VI, and VII as applicable.				
I. AIRCRAFT DESCRIPTION	1. REGISTRATION MARK N12345		2. AIRCRAFT BUILDER'S NAME (Make) PIPER		3. AIRCRAFT MODEL DESIGNATION PA-18-150		4. YR. MFR. 1964	FAA CODING	
	5. AIRCRAFT SERIAL NO. 18-12345		6. ENGINE BUILDER'S NAME (Make) LYCOMING		7. ENGINE MODEL DESIGNATION 0-320				
	8. NUMBER OF ENGINES 1		9. PROPELLER BUILDER'S NAME (Make) SENENICH		10. PROPELLER MODEL DESIGNATION M74DM		11. AIRCRAFT IS (Check if applicable) IMPORT		
APPLICATION IS HEREBY MADE FOR: (Check applicable items)									
A <input checked="" type="checkbox"/> 1 STANDARD AIRWORTHINESS CERTIFICATE (Indicate category) <input checked="" type="checkbox"/> NORMAL <input type="checkbox"/> UTILITY <input type="checkbox"/> ACROBATIC <input type="checkbox"/> TRANSPORT <input type="checkbox"/> COMMUTER <input type="checkbox"/> BALLOON <input type="checkbox"/> OTHER									
B <input checked="" type="checkbox"/> SPECIAL AIRWORTHINESS CERTIFICATE (Check appropriate items)									
7 PRIMARY									
9 LIGHT-SPORT (Indicate Class) <input checked="" type="checkbox"/> Airplane <input type="checkbox"/> Power-Parachute <input type="checkbox"/> Weight-Shift-Control <input type="checkbox"/> Glider <input type="checkbox"/> Lighter than Air									
2 LIMITED									
5 PROVISIONAL (Indicate class)									
1 CLASS I 2 CLASS II									
3 <input checked="" type="checkbox"/> RESTRICTED (Indicate operation(s) to be conducted)									
1 AGRICULTURE AND PEST CONTROL 2 AERIAL SURVEY 3 AERIAL ADVERTISING 4 FOREST (Wildlife conservation) 5 PATROLLING 6 WEATHER CONTROL 0 <input checked="" type="checkbox"/> OTHER (Specify) EXTERNAL LOADS									
1 RESEARCH AND DEVELOPMENT 2 AMATEUR BUILT 3 EXHIBITION 4 AIR RACING 5 CREW TRAINING 6 MARKET SURVEY 0 TO SHOW COMPLIANCE WITH THE CFR 7 OPERATING (Primary Category) KIT BUILT AIRCRAFT									
4 EXPERIMENTAL (Indicate operation(s) to be conducted)									
8 OPERATING LIGHT-SPORT									
8A Existing aircraft without an airworthiness certificate & do not meet § 103.1 8B Operating Light-Sport Kit-built 8C Operating light-sport previously issued special light-sport category airworthiness certificate under § 21.190									
9 UNMANNED AIRCRAFT									
9A RESEARCH AND DEVELOPMENT 9C CREW TRAINING 9B MARKET SURVEY									
8 SPECIAL FLIGHT PERMIT (Indicate operation to be conducted, then complete Section VI or VII as applicable on reverse side)									
1 FERRY FLIGHT FOR REPAIRS, ALTERATIONS, MAINTENANCE, OR STORAGE 2 EVACUATE FROM AREA OF IMPENDING DANGER 3 OPERATION IN EXCESS OF MAXIMUM CERTIFICATED TAKE-OFF WEIGHT 4 DELIVERING OR EXPORTING 5 PRODUCTION FLIGHT TESTING 6 CUSTOMER DEMONSTRATION FLIGHTS									
C <input checked="" type="checkbox"/> 6 MULTIPLE AIRWORTHINESS CERTIFICATE (Check ABOVE "Restricted Operation" and "Standard" or "Limited" as applicable)									
III. OWNERS CERTIFICATION									
A. REGISTERED OWNER (As shown on certificate of aircraft registration) IF DEALER, CHECK HERE →									
NAME JAMES JOHNSON				ADDRESS 2002 W. 33RD AVENUE ANCHORAGE, ALASKA 99518					
B. AIRCRAFT CERTIFICATION BASIS (Check applicable blocks and complete items as indicated)									
<input checked="" type="checkbox"/> AIRCRAFT SPECIFICATION OR TYPE CERTIFICATE DATA SHEET (Give No. and Revision No.) 1A2 REV. 34				<input checked="" type="checkbox"/> AIRWORTHINESS DIRECTIVES (Check if all applicable ADs are complied with and give the number of the last AD SUPPLEMENT available in the biweekly series as of the date of application) 91-21					
<input checked="" type="checkbox"/> AIRCRAFT LISTING (Give page number(s)) N/A				<input checked="" type="checkbox"/> SUPPLEMENTAL TYPE CERTIFICATE (List number of each STC incorporated) N/A					
C. AIRCRAFT OPERATION AND MAINTENANCE RECORDS									
CHECK IF RECORDS IN COMPLIANCE WITH 14 CFR section 91.417			TOTAL AIRFRAME HOURS			3 EXPERIMENTAL ONLY (Enter hours flown since last certificate issued or renewed)			
D. CERTIFICATION - I hereby certify that I am the registered owner (or his agent) of the aircraft described above, that the aircraft is registered with the Federal Aviation Administration in accordance with Title 49 of the United States Code 44101 et seq. and applicable Federal Aviation Regulations, and that the aircraft has been inspected and is airworthy and eligible for the airworthiness certificate requested.									
DATE OF APPLICATION 10/28/1991			NAME AND TITLE (Print or type) JAMES JOHNSON - OWNER			SIGNATURE			
IV. INSPECTION AGENCY VERIFICATION									
A. THE AIRCRAFT DESCRIBED ABOVE HAS BEEN INSPECTED AND FOUND AIRWORTHY BY: (Complete the section only if 14 CFR part 21.183(d) applies)									
2		14 CFR part 121 CERTIFICATE HOLDER (Give Certificate No.)		3		CERTIFICATED MECHANIC (Give Certificate No.)		6	CERTIFICATED REPAIR STATION (Give Certificate No.)
5		AIRCRAFT MANUFACTURER (Give name or firm)							
DATE			TITLE			SIGNATURE			
V. FAA REPRESENTATIVE CERTIFICATION									
(Check ALL applicable block items A and B)									
A. I find that the aircraft described in Section I or VII meets requirements for				THE CERTIFICATE REQUESTED					
B. Inspection for a special flight permit under Section VII was conducted by:				4		AMENDMENT OR MODIFICATION OF CURRENT AIRWORTHINESS CERTIFICATE			
			FAA INSPECTOR		FAA DESIGNEE				
			CERTIFICATE HOLDER UNDER		14 CFR part 65	14 CFR part 121 OR 135	14 CFR part 145		
DATE 10/28/1991		MIDO/FSDO OFFICE AL-FSDO-01	4	FAA INSPECTOR'S SIGNATURE OR DESIGNEE'S SIGNATURE AND NO.			FAA INSPECTOR'S CERTIFICATION FILE REVIEW SIGNATURE		
							 JOHN H. JONES		

**Figure A-2. Reverse of FAA Form 8130-6, Application for U.S. Airworthiness Certificate
(For Multiple Airworthiness Certificate External Load)**

VI. PRODUCTION FLIGHT TESTING	A. MANUFACTURER							
	NAME		ADDRESS					
	B. PRODUCTION BASIS (Check applicable item)							
	<input type="checkbox"/>	PRODUCTION CERTIFICATE (Give production certificate number) _____						
	<input type="checkbox"/>	TYPE CERTIFICATE						
	OTHER:							
C. GIVE QUANTITY OF CERTIFICATES REQUIRED FOR OPERATING NEEDS								
DATE OF APPLICATION		NAME AND TITLE (Print or type)		SIGNATURE				
VII. SPECIAL FLIGHT PERMIT PURPOSES OTHER THAN PRODUCTION FLIGHT TEST	A. DESCRIPTION OF AIRCRAFT							
	REGISTERED OWNER		ADDRESS					
	BUILDER (Make)		MODEL					
	SERIAL NUMBER		REGISTRATION MARK					
	B. DESCRIPTION OF FLIGHT							
	FROM		TO					
	VIA		DEPARTURE DATE	DURATION				
	C. CREW REQUIRED TO OPERATE THE AIRCRAFT AND ITS EQUIPMENT							
	<input type="checkbox"/>	PILOT	<input type="checkbox"/>	CO-PILOT	<input type="checkbox"/>	FLIGHT ENGINEER	<input type="checkbox"/>	OTHER (Specify)
	D. THE AIRCRAFT DOES NOT MEET THE APPLICABLE AIRWORTHINESS REQUIREMENTS AS FOLLOWS:							
	E. THE FOLLOWING RESTRICTIONS ARE CONSIDERED NECESSARY FOR SAFE OPERATION: (Use attachment if necessary)							
F. CERTIFICATION - I hereby certify that I am the registered owner (or his agent) of the aircraft described above, that the aircraft is registered with the Federal Aviation Administration in accordance with Title 49 of the United States Code 44101 <u>et seq.</u> and applicable Federal Aviation Regulations; and that the aircraft has been inspected and is safe for the flight described.								
DATE		NAME AND TITLE (Print or type)			SIGNATURE			
VIII. AIRWORTHINESS DOCUMENTATION (FAA/DESIGNEE use only)	<input checked="" type="checkbox"/>	A. Operating Limitations and Markings in Compliance With 14 CFR Section 91.9, As Applicable			G. Statement of Conformity, FAA Form 8130-9 (Attach when required)			
	<input checked="" type="checkbox"/>	B. Current Operating Limitations Attached			H. Foreign Airworthiness Certification for Import Aircraft (Attach when required)			
	<input type="checkbox"/>	C. Data, Drawings, Photographs, etc. (Attach when required)			I. Previous Airworthiness Certificate Issued in Accordance With 14 CFR Section _____ CAR _____ (Original attached)			
	<input checked="" type="checkbox"/>	D. Current Weight and Balance Information Available in Aircraft						
	<input checked="" type="checkbox"/>	E. Major Repair and Alteration, FAA Form 337 (Attach when required)			<input checked="" type="checkbox"/>	J. Current Airworthiness Certificate Issued in Accordance With 14 CFR Section <u>21.187</u> (Copy attached)		
	<input checked="" type="checkbox"/>	F. This inspection Recorded in Aircraft Records			K. Light-Sport Aircraft Statement of Compliance, FAA Form 8130-15 (Attach when required)			

**Figure A-3. FAA Form 337, Major Repair and Alteration (Airframe, Powerplant, Propeller, or Appliance)
(For Restricted Category Type Certificate)**

 US Department of Transportation Federal Aviation Administration		MAJOR REPAIR AND ALTERATION (Airframe, Powerplant, Propeller, or Appliance)		OMB No. 2120-0020 Exp: 5/31/2018	Electronic Tracking Number
INSTRUCTIONS: Print or type all entries. See Title 14 CFR §43.9, Part 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. §44701). Failure to report can result in a civil penalty for each such violation. (49 U.S.C. §46301(a))					
1. Aircraft	Nationality and Registration Mark N12345		Serial No. 18-12345		
	Make PIPER		Model PA-18-150	Series	
2. Owner	Name (As shown on registration certificate) JAMES JOHNSON		Address (As shown on registration certificate) Address 2002 W. 33RD AVENUE City ANCHORAGE State ALASKA Zip 99518 Country UNITED STATES		
	3. For FAA Use Only				
THIS FAA FORM 337, PLUS THE ORIGINAL TYPE CERTIFICATE, CONSTITUTES THE RESTRICTED TYPE CATEGORY TYPE CERTIFICATE FOR THIS AIRPLANE FOR THE CARRIAGE OF EXTERNAL LOADS.					
4. Type		5. Unit Identification			
Repair	Alteration	Unit	Make	Model	Serial No.
<input type="checkbox"/>	<input type="checkbox"/>	AIRFRAME	PIPER	(As described in Item 1 above)	18-12345
<input type="checkbox"/>	<input type="checkbox"/>	POWERPLANT			
<input type="checkbox"/>	<input type="checkbox"/>	PROPELLER			
<input type="checkbox"/>	<input type="checkbox"/>	APPLIANCE	Type		
			Manufacturer		
6. Conformity Statement					
A. Agency's Name and Address			B. Kind of Agency		
Name _____ Address _____ City _____ State _____ Zip _____ Country _____			<input type="checkbox"/> U. S. Certificated Mechanic <input type="checkbox"/> Foreign Certificated Mechanic <input type="checkbox"/> Certificated Repair Station <input type="checkbox"/> Certificated Maintenance Organization		
			C. Certificate No. _____		
D. I certify that the repair and/or alteration made to the unit(s) identified in item 5 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.					
Extended range fuel per 14 CFR Part 43 App. B <input type="checkbox"/>		Signature/Date of Authorized Individual			
7. Approval for Return to Service					
Pursuant to the authority given persons specified below, the unit identified in item 5 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Rejected					
BY	<input checked="" type="checkbox"/>	FAA Flt. Standards Inspector	Manufacturer	Maintenance Organization	Persons Approved by Canadian Department of Transport
		FAA Designee	Repair Station	Inspection Authorization	Other (Specify)
Certificate or Designation No.		Signature/Date of Authorized Individual  10/28/1991			

**Figure A-4. Reverse of FAA Form 337, Major Repair and Alteration (Airframe,
Powerplant, Propeller, or Appliance)
(For Restricted Category Type Certificate)**

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished
(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

Nationality and Registration Mark Date

NO PERMANENT ALTERATION OF THE AIRPLANE HAS BEEN MADE; THEREFORE, ITEM 6 NEED NOT BE COMPLETED.

1. Operations Limitations - Restricted Category - External Load - Dated 10/28/1991 are provided.

Additional Sheets Are Attached

**Figure A-5. Example of FAA Form 8130-7, Special Airworthiness Certificate
(Issued in the Restricted Category for Airplane External Loads)**

UNITED STATES OF AMERICA DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION SPECIAL AIRWORTHINESS CERTIFICATE		
A	CATEGORY/DESIGNATION RESTRICTED	
	PURPOSE EXTERNAL LOAD OPERATION IN ALASKA	
B	MANU-FACTURER NAME N/A	
	ADDRESS N/A	
C	FLIGHT FROM N/A	
	TO N/A	
D	N-12345	SERIAL NO. 18-12345
	BUILDER PIPER	MODEL PA-18-150
E	DATE OF ISSUANCE OCT. 28, 1991	EXPIRY SEE REVERSE SIDE
	OPERATING LIMITATIONS DATED 10/28/91	ARE A PART OF THIS CERTIFICATE
	SIGNATURE OF FAA REPRESENTATIVE JOHN H. JONES	DESIGNATION OR OFFICE NO. AL-FSDO-03
<small>Any alteration, reproduction or misuse of this certificate may be punishable by a fine not exceeding \$1,000 or imprisonment not exceeding 3 years, or both. THIS CERTIFICATE MUST BE DISPLAYED IN THE AIRCRAFT IN ACCORDANCE WITH APPLICABLE FEDERAL AVIATION REGULATIONS.</small>		
<small>FAA FORM 8130-7 (10/82) SEE REVERSE SIDE</small>		

A	This airworthiness certificate is issued under the authority of the Federal Aviation Act of 1958 and the Federal Aviation Regulations (FAR).
B	This airworthiness certificate authorizes the manufacturer named on the reverse side to conduct production flight tests, and only production flight tests, of aircraft registered in his name. No person may conduct production flight tests under this certificate: (1) Carrying persons or property for compensation or hire; and/or (2) Carrying persons not essential to the purpose of the flight.
C	This airworthiness certificate authorizes the flight specified on the reverse side for the purpose shown in Block A.
D	This airworthiness certificate certifies that, as of the date of issuance, the aircraft to which issued has been inspected and found to meet the requirements of the applicable FAR. The aircraft does not meet the requirements of the applicable comprehensive and detailed airworthiness code as provided by Annex 8 to the Convention On International Civil Aviation. No person may operate the aircraft described on the reverse side: (1) except in accordance with the applicable FAR and in accordance with conditions and limitations which may be prescribed by the Administrator as part of this certificate; (2) over any foreign country without the special permission of that country.
E	Unless sooner surrendered, suspended, or revoked, this airworthiness certificate is effective for the duration and under the conditions prescribed in FAR Part 21, Section 21.181 or 21.217. SEE OPERATIONS LIMITATIONS FOR EXPIRATION DATE

Appendix B. Some Best Operating Practices (Non-Regulatory)

1. Consider that anything attached to the struts may vibrate and cause damage. Some type of protective material should be applied at the wear spots. After the external load has been removed, the area under the protective material should be inspected for damage.
2. Attaching methods are varied and numerous. The use of the “bungee cord” has gained acceptance in recent years because it does not have a tendency to loosen, as do other methods, and is easier to remove. The item to be attached to the wing struts should be placed “uphill” from the jury struts. This provides a notch for the item to rest upon and aids in the securing process. When attaching snowshoes, the bungee cord should pass through the webbing at least once and continue around the complete snowshoe enough times to hold it in place securely. When attaching a rifle scabbard to the wing struts, it is good practice to ensure that the rifle is not going to come out of the scabbard; this may be hazardous to people and property on the ground. Backpack frames are attached in the same manner as snowshoes, using a bungee cord and wrapping it around enough times to ensure that it is secure. On some airplanes, the aileron cables are attached to the outside of the wing strut. Care should be exercised to avoid wrapping the bungee cord around the cable. Restricting the aileron cable could cause an airplane control problem and also may cause the cable to cut through the bungee cord, resulting in an inadvertent release.
3. Comments received from users reveal that PA-18 Super Cubs are capable of carrying a considerable amount of plywood on the spreader bars. The amount should be dictated by the performance factors and limitations of the airplane. Some type of protection for the spreader bars is needed at the wear spots, such as tape or rubber sheeting. The plywood can be nailed together to prevent shifting, and then be properly attached. Webbed tie-down straps with a built-in ratchet device have proven successful as an attachment method. Some operators have incorporated a piece of metal formed into a ‘V’ and screwed it to the leading edge of the wood to streamline it; the frontal height should be kept to 6 inches to 8 inches. The carriage of dimensional lumber can be treated like plywood and secured to the top of the floats in some instances. As with any load, consideration must be given to Weight and Balance (W&B) and the limitations of the airplane.
4. Lightweight material, such as sheets of roofing, can be placed between plywood or lumber to stiffen the load and reduce vibration. The sheets must be securely fastened to the wood to prevent them from sliding out.
5. The carriage of canoes may be conducted safely as long as appropriate safety precautions are taken. The Dehavilland DHC-2 Beaver may carry canoes as an external load while in the standard category, if the airplane is equipped as specified in the Type Certificate Data Sheet (TCDS), and is operated in accordance with a flight manual approved by the Federal Aviation Administration (FAA).

CAUTION: Various airplanes can be affected differently when carrying the same external load. The majority of experience with airplane external loads is with high-wing, float-equipped airplanes. Some external loads that can be safely carried on high-wing, float-equipped airplanes might not be safely carried on an airplane without floats.

- 6.** The carriage of antlers may be challenging because of their shape, but this also allows for numerous fastening points. Bungee cords, parachute cord, and nylon rope have proven adequate for secure attachment. Antlers can be carried on the wing struts or on the floats. Moose antlers are particularly heavy and, while they can be attached to the wing struts, the extra weight is a consideration. Flight with heavy antlers in turbulent air or during a hard landing will impose additional loads that could result in bent wing struts, rendering the airplane unairworthy. It has been reported that, on some airplanes, antlers secured to the wing struts can cause a significant airflow disturbance to the tail surfaces. Antlers can also cause a significant amount of drag, which increases fuel consumption, and should be considered in flight planning.
- 7.** Loads can be carried on either side of the airplane. Some pilots prefer to carry a load on the right side to balance the airplane, while others prefer the left to better monitor the load. The pilot may elect which side to place the load, depending on airplane performance and previous experience with a particular load.
- 8.** Antennas are attached to airplanes for many purposes, but mainly for tracking radio collared game.
- 9.** It is recommended that pilots seek the advice and experience of others to more quickly develop loading methods and procedures. Above all, remember that safety is of the utmost concern.
- 10.** Title 14 of the Code of Federal Regulations (14 CFR) part 45, § 45.23(b) requires that the word “restricted” be displayed when operating in that category. One method of compliance is the display of temporary signs in both side windows of the airplane.